

CLAIMS

1/ A method of interchanging data between the non-volatile memory of a portable object, in particular a microcircuit card, and an automatic machine with which the card is temporarily coupled to enable goods or service to be delivered, the card having value information that can be debited by the machine in consideration for delivering the goods or service, the method being characterized in that it comprises steps in which the machine causes a ratification flag to be modified, which flag is stored in the non-volatile memory of the card, said flag having two states, a ratified state corresponding to the case in which the preceding transaction performed with the card, whether by the same machine or another machine, took place correctly, and a non-ratified state for the case in which said preceding transaction was interrupted while it was being executed, and in which the machine successively:

20 · conditionally debits the card if the flag is in the ratified state;

25 · causes the card to put the flag into the non-ratified state if a debit took place during the preceding step;

30 · then causes the goods or service to be delivered; and

35 · if delivery takes place effectively in the preceding step, causes the card to put the flag into the ratified state.

2/ The method of claim 1, comprising the following steps:

30 a) the machine reads the state of the ratification flag and jumps to step e) if it is in the non-ratified state;

35 b) the machine causes the card to be debited by an amount corresponding to the goods or service to be delivered;

c) the card records the debit by updating its value information, and it puts the flag into the non-ratified state;

d) the card confirms to the machine that the debit has been recorded;

5 e) the machine delivers the goods or service;

f) the machine causes the flag to be set to the ratified state; and

10 g) the card changes the state of the flag to put it into the ratified state.

Step 2 *↗*
 15 3/ The method of either preceding claim, in which conditional debiting of the card is also subordinate to a time delay elapsing since the preceding operation of putting the flag into the non-ratified state.

20 4/ The method of any preceding claim, in which conditional debiting of the card is also subordinate to the machine performing the current transaction belonging to a group to which the machine that performed the preceding transaction also belongs.

25 5/ The method of any preceding claim, in which, when the flag is in the non-ratified state, delivery without debit is inhibited if the machine detects that delivery took place during the preceding use of the card.

30 6/ The method of any preceding claim, in which card debiting and putting the flag into the non-ratified state are performed in indivisible manner.

35 7/ The method of any preceding claim, in which at least a portion of the information modifying the state of the card, in particular commands enabling the flag to be put into the ratified state, is previously processed by cryptographic means implemented both in the card and in the machine.

8/ The method according to any preceding claim, in which at least a portion of the information relating to the state of the card, in particular the state of the flag and confirmation that the debit has taken into account, is previously processed by cryptographic means implemented both in the card and in the machine.

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9/ The method of any preceding claim, in which the goods or service is delivered in deferred manner after a given time delay.

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10/ The method of claim 9, in which delivery takes place prior to the expiry of the time delay in the event of receiving confirmation that the card has been successful in putting the flag into the ratified state.

11/ The method of claim 9, in which a pause of random duration is included in the transaction.

20 12/ The method of any preceding claim, in which the
information interchanged between the machine and the card
is enciphered in such a manner as to avoid revealing the
moment at which the machine instructs the card to put the
flag into the ratified state, or the moment at which the
card performs that instruction.

13/ The method of any preceding claim, including, in the
machine, counting the number of occasions on which it
30 reads a flag in the non-ratified state.

14/ The method of any preceding claim, including the card counting the number of occasions on which it stores the flag in the non-ratified state between two transactions.

35 15/ The method of claim 13 or 14, in which means are
provided to indicate that an article has been
detected.

exceeded by the count in the card, in particular means for inhibiting subsequent delivery of goods or service.

16/ The method of any preceding claim, in which the card
5 memory includes information about the kind of goods or
service to be delivered, which information is updated
before any delivery of said goods or service.

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